**THE UNITED STATES DISTRICT COURT**
**FOR THE MIDDLE DISTRICT OF PENNSYLVANIA**

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| **UNITED STATES OF AMERICA,** | : |
| | : **CRIMINAL NO. 3:19-CR-250** |
| **v.** | : **(JUDGE MARIANI)** |
| | : |
| **MARTIN EVERS,** | : |
| | : |
| **Defendant.** | : |

# MEMORANDUM OPINION

## I. INTRODUCTION

Here the Court considers Defendant's Motion to Exclude Opinion and Testimony of Dr. Stephen Thomas (Doc. 54). With the motion, Defendant maintains that the testimony of Dr. Thomas, the Government's medical expert, should be excluded because his report fails to satisfy the requirements of Federal Rule of Evidence 702 *and Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 592 (1993), and he offers improper opinions on the ultimate legal conclusions and legal standards governing the case. (Doc. 54 at 4; Doc. 84 at 1.)

In the underlying case, Defendant is charged in the August 28, 2019, two-count Indictment with Unlawful Distribution and Dispensing of a Controlled Substance in violation of 21 U.S.C. § 841(a)(1) and Unlawful Distribution and Dispensing of a Controlled Substance Resulting in Death and Serious Bodily Injury in violation of 21 U.S.C. § 841(a)(1). (Doc. 1.) These charges against Defendant, a medical doctor, are based on September 2, 2014, and September 9, 2014, prescriptions for controlled substances written for his patient

"K.D.," a woman with an opioid addiction whom he had begun to treat in March 2013. (*Id.*)

For the reasons discussed below, the Court will deny Defendant's motion.

## II. BACKGROUND

Defendant Martin Evers is an internal medicine physician who treated K.D. as her primary care physician from approximately October 2012 until her death on September 11, 2014, when she was found unresponsive by her mother. Defendant states that K.D.

> had a complex medical history, including, but not limited to lumbago, syringomyelia, syrigobulbia, fibromyalgia, chronic headaches, seizures, Roux-en-Y gastric bypass, with multiple revisions, a craniotomy, and a laminectomy. As her primary care physician, Dr. Evers provided comprehensive medical care to K.D. including, but not limited to, physical examinations, administration of vaccinations, and treatment for a variety of medical conditions.

(Doc. 65 at 3.)

The Government contends that K.D.

> had been "treated" with high doses of short and long acting opioid analgesics and had been demonstratedly incapable of compliantly taking that class of drugs. K.D. took her medication in a manner that was indicative of loss of control over the use of the controlled substances. The medical records document that she underwent several episodes of inpatient treatment for "substance use disorder" and detoxification in order to eliminate these drugs from her system. The defendant was aware from the outset through the efforts of K.D.'s family and through the medical records that K.D. suffered from opioid addiction, and other aberrant drug use.

(Doc. 84 at 1-2.)

The Government intends to offer at trial the testimony of Stephen M. Thomas, M.D., who is a diplomate of the American Board of Anesthesiology with a subspecialty

Certification in Pain Medicine. (Doc. 84 at 3.) Dr. Thomas is also a Certified Independent Medical Examiner. (*Id.*) Dr. Thomas submitted his first report on August 12, 2019. (Doc. 64 at 2-6.) In forming his opinions, Dr. Thomas reviewed the following records: Disc Labeled: [K.D.]; Coroner Report, dated January 13, 2015; Autopsy and Toxicology Report dated December 8, 2014, and December 18, 2014; Medical Records Provided to Coroner – Office Notes September 9, 2014, Scripts January 23, 2014, to September 9, 2014; Medical Records from Dr. Evers' Office – March 6, 2013, to September 9, 2014; Margaret Dame Interview – August 7, 2019; Dr. Martin Evers Interview – August 7, 2019; and Prescription Drug Monitoring Program ("PDMP") – September 9, 2014, to September 30, 2011. (Doc. 64 at 1.)

Based on his review of the records, Dr. Thomas cataloged K.D.'s medical history and Dr. Evers' treatment of her problems, including Dr. Evers' continual "high-dose opioid prescribing" despite record evidence of "problematic drug taking" which required several episodes of K.D. being detoxified from opioid analgesics. (Doc. 64 at 3-4.) Dr. Thomas reviewed in detail the period from January 2014 through her death on September 11, 2014. (*Id.* at 4.) After summarizing her medical history beginning on March 20, 2013, the earliest documentation of Dr. Evers' treatment of K.D., Dr. Thomas stated that

> Dr. Evers provided [K.D.] with a prescription for Methadone 10 mg, 480 tablets, ostensibly 16 tablets per day, on July 1, 2014. The PDMP shows that by July 12, she obtained additional Methadone form another provider, a prescription for 84 tablets. On July 19, she obtained another 36 Methadone tablets from the same third prescriber. Notably, July 21, 2013 was [K.D.'s] next to last Methadone prescription.

> Dr. Evers' medical record was silent from July 1, 2014 through August 28, 2014, when [K.D.] returned Dr. Evers noted that in the interim she had been at yet another rehabilitation facility, the Horsham Clinic, for "abusing inhalants and other meds." The "other meds' to which he referred were certainly the controlled substances, Methadone and Diazepam that he had prescribed. On September 2, when [K.D.] presented with what she described as intractable pain complaints, Dr. Evers provided her with a prescription for Fentanyl Transdermal 25 mcg per hour to be changed every three days. She returned on September 9, and he provided her with a prescription for 360 Methadone 10 mg tablets with instructions to take the phenomenally high starting does of 120 mg per day. Dr. Evers did so while documenting that [K.D.] was to undergo an "irreversible" taper of the Methadone. This particular annotation was quite remarkable in that [K.D.] had not had Methadone prescribed for more than a month and therefore had already been tapered from the drug.
>
> [K.D.] was found deceased at her home on September 11, 2014.

(Doc. 64 at 4.)

As to the postmortem and toxicological examinations, he noted the following:

> Her postmortem examination revealed no intrinsic disease to explain her demise. A toxicological examination revealed the presence of Fentanyl and its metabolites in her urine. The postmortem examination, however, did not mention whether she was wearing a Fentanyl patch. The serum toxicology revealed the presence of Nordiazepam, a metabolite of Diazepam, and a serum Methadone concentration of 180ng/mL. The cause of death was deemed to be "combined pharmacologic effects of Doxepin, Methadone, benzodiazepines and Fentanyl." While the toxicology report stated that multiple (over 400) drugs were screened, the precise findings were not clear, given the absence of a list of negative findings. I contacted the testing laboratory for procedural clarification.

(Doc. 64 at 4-5.)

In the Conclusions section of his report, Dr. Thomas opined that Dr. Evers'

> haphazard, inappropriate, substandard prescribing behavior was the proximate cause of [K.D.'s] overdose and death. Dr. Evers either knew or should have

> known that Methadone cannot be utilized in drug dependent individuals outside of an opioid treatment program and that its use for the treatment of pain has been associated with precisely this type of overdose. In this instance, however, the risk of overdose was much more higher [sic] than it would have been in a non-addicted patient with chronic pain.
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> Moreover, on September 9, 2014 Dr. Evers was aware that [K.D.] had recently undergone rehabilitative treatment wherein she had been detoxified from the drugs of abuse, particularly opioid analgesics and benzodiazepines. Dr. Evers had no reason to believe that if he gave [K.D.] a large amount of methadone and concomitant Diazepam, a relatively contraindicated combination, that she would take these medications in the manner prescribed. Throughout the course of his treatment of [K.D.], Dr. Evers failed to adequately monitor her drug taking behavior and had no idea what, if any, illicit drugs she was using or if she had in any way abused the drugs that he had provided her. Lacking the requisite skill and knowledge, Dr. Evers provided [K.D.] with a grossly excessive amount of Methadone for a detoxified and therefore, once again, opioid-naïve addicted individual. In my opinion, the prescribing of high-dose Methadone to a drug dependent individual, particularly one who had been rendered opioid-naïve, was not the provision of the prescription for a medically legitimate purpose in the usual course of professional practice. But for Dr. Evers' prescription of Methadone and Diazepam, [K.D.'s] untimely death would not have occurred. Dr. Evers prescribed controlled substances to her in a manner not consistent with the accepted treatment principles of any responsible segment of the medical community.

(Doc. 64 at 5-6.)

In a supplemental report dated September 7, 2020, Dr. Thomas reviewed a letter from defense counsel dated June 3, 2020, and additional records. (Doc. 126 at 56.) He amended the assertion in his previous report by adding the word "relatively" to the phrase "opioid naïve," stating that his "declaration that K.D. was 'opioid naïve' represented a minor overstatement of her condition." (*Id.* at 57, 58.) In connection with this assessment, Dr. Thomas noted that

> [i]t was . . . incorrect to then ascribe to K.D. was opioid tolerant to the degree that she had been prior to her visits at First Hospital and Horsham Clinic. While she was at First Hospital and Horsham Clinic over the course of more than 60 days away from Dr. Evers' care [July 1, 2014, through August 28, 2014 (Doc. 64 at 4)], she was significantly weaned from high-dose Methadone.

(Doc. 126 at 57.) Dr. Thomas also clarified that the Prescription Drug Monitoring Program ("PDMP") showed K.D. had received Methadone from other providers but "of the Methadone she received for unsupervised administration in September 2014, 98% (360 of 367 – 10 mg tablets) was supplied by Dr. Evers[;] . . . of the Methadone she received between July 1 and September 9, 2014, 81% was provided by Dr. Evers." (*Id.*)

In his supplemental report, Dr. Thomas reiterated his earlier conclusions, stating that

> within a reasonable degree of medical certainty . . . the prescribing of Diazepam and Methadone to K.D. in the observed doses on September 9, 2014 was not for a medically legitimate purpose in the usual course of professional practice, as the prescribing was contrary to the accepted treatment principles of any responsible segment of the medical community. Further, but for the prescribing of these medications, K.D. would not have died. The diagnosis of acute combined drug toxicity is supported by the postmortem drug levels obtained and the circumstances surrounding her death. The autopsy showed pulmonary congestion consistent with the putative mechanism of her death from combined acute drug toxicity.

(*Id.* at 60.)

At the hearing held on March 1, 2021, Dr. Thomas testified at length about the findings in his reports and elaborated on his experience with the drugs at issue and his opinion about K.D.'s cause of death.

> Q. Now, in terms of the but-for cause of death, can you -- specifically talking about your background, your training and your experience as an anesthesiologist -- does that background and experience advance your

opinions in this case, especially, when you're asked to render an opinion as to cause of death?

A. Yes.

Q. Can you explain to the Court how does that?

A. The drugs which we are discussing, opioids and sedative hypnotics, are the cornerstone of anesthetic management. An anesthetic -- I'm sorry. My dad used to tease me that the reason I liked anesthesia was because I could dangle people over the chasm and then snatch them back.

An anesthetic is a controlled overdose. I have overdosed tens of thousands of patients deliberately and managed them after that occurred. I also, in treating patients, observed multiple overdoses. I've observed patients who have overdosed on Methadone in therapeutic concentrations. A patient, who I remember right now, who, when she was at 20 milligrams of Methadone twice a day, she was fine, at 30 milligrams, she stopped breathing. My experience with these drugs is, frankly, at that region where patients overdose, where I've watched it happen repeatedly and managed them through it. So when I read what is happening here and I look at the blood levels and I look at the combinations, those are not dissimilar to my experience as an anesthesiologist, but, in fact, they are -- they have been part of my practice in outpatient medicine, in terms of minimizing those risks to my own patients.

It is certainly within the realm of all of my practice, over the course of the past 35 years that I draw from, and I base it upon the scientific principles of the practice of medicine that
I've gleaned over that time.

(Hr'g Tr. 66:17-67:24 (Doc. 120).) As to his opinion regarding the cause of K.D.'s death, the following exchange occurred:

Q. Did you use a differential diagnosis in this case, in evaluating the records that were provided to you, in reaching an opinion regarding the cause of death in this case?

A. Yes

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Q. Can you explain to us how you did that?

A. [K.D.] presented with a sudden -- with an unexpected death in a particular set of clinical circumstances. And just as the coroner who performed the postmortem did not reach a final diagnosis until after toxicology, it was the entirety of the presentation that I used in determining the cause of death with the but-for condition.

[K.D.] had a history that was well-documented in the medical record of substance use, substance abuse and pain complaints associated with that as a means of obtaining further substances. And that was throughout the time that she was under Dr. Evers' care.

When she was found dead, the postmortem revealed no obvious cause of death, in terms of a hemorrhage or trauma or other internal organ dysfunction, but it did have an important physical finding, and that is, when the -- at the postmortem, there was frothiness in the mouth, and when he cut the lung, there was copious pulmonary edema fluid.

What that tells one is that, when the patient died, there was a lot of fluid in the lungs, and that is consistent with the deaths that occur when people become apneic, stop breathing, and, occasionally, try to breathe against a closed glottis, that is breathing in when your throat is closed off, because that produces negative pressure in the chest and pulls fluid into the lungs. It is a common thing to occur in anesthetics, in fact, or post-aesthetically, when patients are awakening, and you have to guard for it. But that's important information.

Then, when one obtains the toxicology, the toxicology showed that she had levels of drug in her blood, both a sedative hypnotic nordiazepam and Methadone, that were within the range that could produce both unconsciousness and closing of the airway, such as to provide a mechanism of death. She, incidentally, had a level of doxepin in her blood, as well, that would not have been directly contributory to her death, in the absence of the other drugs.

And thus, given the history, the postmortem examination and the toxicology occurring in the setting of a patient who was treated in the way that [K.D.] was, that is, a patient who had been weaned off of opioid analgesics, between her last prescription from Dr. Evers of Methadone in July and her prescription of Methadone from Dr. Evers in September, she had gotten

> progressively lower doses of Methadone, to the extent that by the time he gave her her last prescription, she was, essentially, free of the drug.
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> So in that circumstances, a patient with a history of substance abuse, a patient who had loss of control, secondary to multiple risk factors associated with her use of the drugs, who had been weaned to reinstate her tolerance to the drugs, who died in a manner that was determined by the coroner to not be from other causes, had a level of drug in her blood, particularly, Methadone and nordiazepam, an active metabolite of diazepam, the drug that is in Valium, which Dr. Evers had also prescribed, that those things, along with her postmortem examination and the manner of prescribing, led me to the conclusion that but for the prescription of Methadone, 360 10mg tablets, to a patient who was relatively opioid naive, given to her weaning over the course of two months, that [K.D.] would not have died.

(Hr'g Tr. 61:10-63:22 (Doc. 120).)

Defendant filed the motion under consideration here on July 23, 2020. (Doc. 54.) As noted above, the Court held a *Daubert* hearing on March 11, 2021. (*See* Hr'g Tr., Doc. 120.) The parties have now filed their supplemental briefs (Docs. 127, 143) and the motion is ripe for disposition.

## III. ANALYSIS

With the pending motion, Defendant claims that Dr. Thomas's opinion fails to satisfy the criteria for admissibility under *Daubert* and Dr. Thomas improperly opines as to the ultimate legal conclusion and the governing legal standards in this matter. (Doc. 54 ¶¶ 14, 15 (citations omitted).) Defendant initially requested that the Court exclude all expert opinion and testimony from Dr. Thomas. (Doc. 54 ¶ 4, p. 5; Doc. 65 at 23.) However, in his supplemental brief, Defendant states the following: "[f]or the reasons set forth in Dr. Evers's Motion, supporting memorandum of law and reply brief, and herein, Dr. Evers respectfully

urges this Court to preclude Dr. Thomas from offering an opinion and testimony as to K.D.'s cause of death." (Doc. 127 at 1; *see also* Doc. 127 at 17.) Because this statement of the relief sought differs from that sought in the earlier filings, the Court will address the relief now requested.

Federal Rule of Evidence 702, which governs the admissibility of expert witnesses, provides that a witness may be qualified as an expert in a relevant field if:

> (a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;
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> (b) the testimony is based on sufficient facts or data;
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> (c) the testimony is the product of reliable principles and methods; and
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> (d) the expert has reliably applied the principles and methods to the facts of the case.

Fed. R. Evid. 702.

In *Daubert v. Merrell Dow Pharmaceuticals, Inc.,* the Supreme Court explained that Rule 702 confers a "gatekeeping role" on trial judges to "ensur[e] that an expert's testimony both rests on a reliable foundation and is relevant to the task at hand." 509 U.S. at 597. *Daubert* attempts to strike a balance between a liberal admissibility standard for relevant evidence on the one hand and the need to exclude misleading "junk science" on the other. *Best v. Lowe's Home Centers, Inc.*, 563 F.3d 171, 176-77 (6th Cir. 2009) (citing *Amorgianos v. Nat'l R.R. Passenger Corp.*, 303 F.3d 256, 257 (2d Cir. 2002)). "Faced with a proffer of expert scientific testimony . . . the trial judge must determine at the outset,

pursuant to [Federal Rule of Evidence] 104(a), whether the expert is proposing to testify to (1) scientific knowledge that (2) will assist the trier of fact to understand or determine a fact in issue." *Daubert*, 509 U.S. at 592.

The Court of Appeals for the Third Circuit has explained that

> Rule 702 embodies a trilogy of restrictions on expert testimony: qualification, reliability and fit. [*In re Paoli R.R. Yard PCB Litigation*, 35 F.3d 717, 741–743 (3d Cir. 1994) ("*Paoli II*")] (citing *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, (1993)). Qualification refers to the requirement that the witness possess specialized expertise. We have interpreted this requirement liberally, holding that "a broad range of knowledge, skills, and training qualify an expert." *Id*. Secondly, the testimony must be reliable; it "must be based on the 'methods and procedures of science' rather than on 'subjective belief or unsupported speculation'; the expert must have 'good grounds' for his on her belief. In sum, *Daubert* holds that an inquiry into the reliability of scientific evidence under Rule 702 requires a determination as to its scientific validity." *Paoli II,* 35 F.3d at 742 (quoting *Daubert,* 509 U.S. at 590, 113 S.Ct. 2786). Finally, Rule 702 requires that the expert testimony must fit the issues in the case. In other words, the expert's testimony must be relevant for the purposes of the case and must assist the trier of fact. The Supreme Court explained in *Daubert* that "Rule 702's 'helpfulness' standard requires a valid scientific connection to the pertinent inquiry as a precondition to admissibility." 509 U.S. at 591–92, 113 S.Ct. 2786.
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> By means of a so-called "*Daubert* hearing," the district court acts as a gatekeeper, preventing opinion testimony that does not meet the requirements of qualification, reliability and fit from reaching the jury. *See Daubert,* 509 U.S. at 592, 113 S.Ct. 2786 ("Faced with a proffer of expert scientific testimony, then, the trial judge must determine at the outset, pursuant to Rule 104(a) [of the Federal Rules of Evidence] whether the expert is proposing to testify to (1) scientific knowledge that (2) will assist the trier of fact to understand or determine a fact in issue.").

*Schneider ex rel. Estate of Schneider v. Fried*, 320 F.3d 396, 404–05 (3d Cir. 2003).

Defendant asserts that Dr. Thomas's testimony "fails to satisfy any of the three foundational requirements." (Doc. 127 at 4.) Because Defendant does not specifically address the fit requirement (*see* Docs. 65, 127), the Court will focus its analysis on the requirements of qualification and reliability.

**A. Qualification**

Defendant first contends that "Dr. Thomas lacks the necessary qualifications to testify regarding K.D.'s cause of death." (Doc. 127 at 4.) The Government responds that "it cannot credibly be disputed that Dr. Stephen M. Thomas is eminently qualified to testify in this case." (Doc. 143 at 5.)

*Paoli II* set out a detailed explanation of the qualification requirement, first noting that the Circuit Court has interpreted this requirement liberally. 35 F.3d at 741 (citing *In re Paoli R.R. PCB Litigaion,* 916 F.2d 829, 855 (3d Cir. 1990) ("*Paoli I*")).

> We have held that a broad range of knowledge, skills, and training qualify an expert as such. *Paoli I*. 916 F.2d at 855. In *Paoli I* we ruled that the district court had abused its discretion in excluding the opinions of Drs. Barsotti, Zahalsky, and Nisbet. We explained that exclusion was not the proper remedy "simply because the experts did not have the degree or training which the district court apparently thought would be most appropriate." *Id.* at 856.
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> Defendants submit that when this court held that Rule 702 mandates a policy of liberal admissibility, all that it was doing was eliminating any requirement that a candidate have specific formal qualifications such as a degree in a particular field. They assert that we were simply directing the trial court to focus on the "substance of a proffered expert's background and its fit with respect to the issue at hand." Thus, defendants suggest, when a trial court evaluates an expert's substantive rather than formal qualifications, it does not have to use a liberal policy of admission.

> But this is incorrect. Rule 702's liberal policy of admissibility extends to the substantive as well as the formal qualification of experts. We have eschewed imposing overly rigorous requirements of expertise and have been satisfied with more generalized qualifications. *See Hammond v. International Harvester Co.,* 691 F.2d 646, 652–53 (3d Cir.1982) (holding that an engineer, whose only qualifications were sales experience in the field of automotive and agricultural equipment and teaching high school automobile repair, nevertheless could testify in a products liability action involving tractors); *Knight v. Otis Elevator Co.,* 596 F.2d 84, 87–88 (3d Cir.1979) (holding that an expert could testify that unguarded elevator buttons constituted a design defect despite expert's lack of specific background in design and manufacture of elevators). As we explain below, however, the level of expertise may affect the reliability of the expert's opinion.

35 F.3d at 741.

In *Holbrook v. Lykes Bros. S.S. Co.*, 80 F.3d 777 (3d Cir. 1996), the Third Circuit considered the trial court's exclusion of physicians' testimony based on the district court's finding that the physicians did not have the specialization it deemed appropriate:

> In *Paoli II,* we reversed the district court's finding that a witness was not qualified because we found that the doctor, "while arguably a relatively poor clinician and less than fully credible witness, qualifie[d] as an expert." 35 F.3d at 753. Similarly, in *In re Paoli R.R. Yard PCB Litigation* ("*Paoli I* "), 916 F.2d 829 (3d Cir.1990), we stated that
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> > insistence on a certain kind of degree or background is inconsistent with our jurisprudence in this area. The language of Rule 702 and the accompanying advisory notes make it clear that various kinds of "knowledge skill, experience, training or education," Fed.R.Evid. 702, qualify an expert as such.
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> *Id.* at 855. Following this logic, it is an abuse of discretion to exclude testimony simply because the trial court does not deem the proposed expert to be the best qualified or because the proposed expert does not have the specialization that the court considers most appropriate. *Id.* at 856.

*Holbrook*, 80 F.3d at 782.

Courts within this Circuit have concluded that a physician familiar with complications of his specialty need not be a pathologist to opine on the cause of death. *Kenna ex rel. Kenna v. Jill-Dhara, Inc.*, Civ. A. No. 03-211J, 2006 WL 1266522 (W.D. Pa. May 9, 2006). In *Kenna*, a case where there was no autopsy and the treating physician opined that an individual died of a pulmonary embolus after surgery for fixation of a fracture, based on *Holbrook* and *Paoli I*, the District Court reasoned that the physician

> has experience with pulmonary emboli through his practice of orthopedic surgery and medicine. Clearly, [he] has general training as a medical doctor and as an orthopedic surgeon, but his lack of specialty in pathology is not a basis to dismiss his opinion regarding a cause of death, particularly when the alleged cause of death is a known complication common to his surgical practice. Had [the proffered expert] not been trained or practicing in a specialty that permitted exposure to pulmonary emboli, this Court might reconsider its conclusion. However, [his] experience with a complication common to his practice, which is also a possible diagnosis of a cause of death that a pathologist encounters in his practice, is sufficient to qualify him as an expert possessing knowledge and skill more than a layman in this area of medicine.

2006 WL 1266522, at *2.

Based on the authority cited, Dr. Thomas's qualifications, and the circumstances of this case, the Court is satisfied that Dr. Thomas's qualifications are sufficient to make his testimony helpful to the jury in understanding K.D.'s cause of death. His specialties in anesthesia and pain management provide him with specific knowledge as to the consequences of an erroneous course of treatment regarding the drugs which the toxicology report found to be present postmortem. As his report and testimony indicate, (1)

death by overdose is a known complication of prescribing opioids to drug addicted individuals, and (2) Dr. Thomas is familiar and has clinical experience with the effects of the drugs at issue and with drug overdose through his anesthesia specialty and pain management practice. (*See*, *e.g.*, Doc. 64 at 5, Doc. 120 at 67, 93.)

Defendant's reliance on American Medical Association ("AMA") and Association of American Medical Colleges ("AAMC") definitions and guidelines which forms the basis for his argument that Dr. Thomas is not qualified to render an opinion as to K.D.'s cause of death (Doc. 127 at 2-6) essentially seeks to alter the liberal qualification standard well-established in this Circuit. As the authority set out above clearly indicates, to qualify as an expert offering an opinion on the cause of death in the Third Circuit, Dr. Thomas need not have specific training in forensic pathology and toxicology—specific degrees or formal training is not required to qualify as an expert in a field and more generalized qualifications of a proffered expert may satisfy the qualification requirement. *See supra* pp. 12-14.

Further, although Defendant is correct that United States Court of Appeals for the Third Circuit stated in *Waldorf v. Shuta*, 142 F.3d 601 (3d Cir. 1998), that "'Rule 702 requires the witness to have "specialized knowledge" regarding the area of testimony,'" (Doc. 127 at 1-2 (quoting *Waldorf*, 142 F.3d at 625)), his assertion that Dr. Thomas does not satisfy this standard is incorrect. First, the Court's determination that Dr. Thomas is qualified to testify as an expert as to cause of death is consistent with *Waldorf* in that the Court has found that Dr. Thomas has sufficient specialized knowledge to opine as to cause

of death in this case. Second, when Defendant's quoted material is read in context, *Waldorf* contemplates an expansive application of the "specialized knowledge" concept:

> The basis of this specialized knowledge "can be practical experience as well as academic training and credentials." *American Tech. Resources v. United States,* 893 F.2d 651, 656 (3d Cir.1990); *Hammond v. International Harvester Co.,* 691 F.2d 646, 653 (3d Cir.1982) ("[U]nder Rule 702, an individual need possess no special academic credentials to serve as an expert witness....'[P]ractical experience as well as academic training and credentials may be the basis of qualification (as an expert witness).'" (citation omitted)). We have interpreted the specialized knowledge requirement liberally, and have stated that this policy of liberal admissibility of expert testimony "extends to the substantive as well as the formal qualification of experts." *See, e.g., In re Paoli R.R. Yard PCB Litig.,* 35 F.3d 717, 741 (3d Cir.1994). However, "at a minimum, a proffered expert witness ... must possess skill or knowledge greater than the average layman...." *Aloe Coal Co. v. Clark Equip. Co.,* 816 F.2d 110, 114 (3d Cir.1987).

*Waldorf*, 142 F.3d at 625.

As discussed above, Dr. Thomas has training and experience that make him intimately familiar with the effects of the drugs which studies revealed to be present in K.D.'s system following her death and Dr. Thomas certainly possesses skill or knowledge greater than the average layman regarding drug overdoses related to the drugs at issue. Thus, Defendant has provided no basis upon which the Court can conclude that Dr. Thomas does not meet the qualification requirement regarding his opinion on K.D.'s cause of death.

**B. Reliability**

Defendant raises several issues related to the reliability requirement: (1) Dr. Thomas's methodology was insufficient with respect to analyzing postmortem blood levels (Doc. 127 at 7); (2) Dr. Thomas's methodology was insufficient as he failed to account for

postmortem redistribution ("PMR") in his opening brief (*id.* at 10); (3) Dr. Thomas did not consider all relevant medical records (*id.* at 12); and (4) Dr. Thomas's conclusion that the prescriptions for Methadone and Nordiazepam issued by Dr. Evers were the "but for cause" of K.D.'s death is not supported by sufficient information (*id.* at 16). The Government responds that none of these claims are factually or legally sound and are all of the type properly made on cross-examination. (Doc. 143 at 16.)

> *Daubert's* reliability analysis requires a Court to consider, among other things:
>
> (1) whether a method consists of a testable hypothesis; (2) whether the method has been subjected to peer review; (3) the known or potential rate of error; (4) the existence and maintenance of standards controlling the technique's operation; (5) whether the method is generally accepted; (6) the relationship of the technique to methods which have been established to be reliable; (7) the qualifications of the expert witness testifying based on the methodology; and (8) the non-judicial uses to which the methods have been put.

*Paoli II*, 35 F.3d at 742 n.8. The reliability inquiry is a flexible one. *Id.* at 742. Importantly, *Daubert* did not set out a definitive checklist or test, and no single factor was deemed dispositive. *Daubert*, 509 U.S. at 593. "[T]he reliability analysis applies to all aspects of an expert's testimony: the methodology, the facts underlying the expert's opinion, [and] the link between the facts and the conclusion." *ZF Meritor, LLC v. Eaton Corp.*, 696 F.3d 254, 291 (3d Cir. 2012) (quoting *Heller v. Shaw Indus., Inc.*, 167 F.3d 146, 155 (3d Cir. 1999)).

"When there is a serious question of reliability of evidence, it is appropriate for the court to exercise to some degree an evidentiary screening function." *Paoli II*, 35 F.3d at 743

(quotation marks and citations omitted). However, the *Daubert* standard is not intended to be a high one, nor is it to be applied in a manner that requires the proponents of the expert testimony "to prove their case twice—they do not have to demonstrate to the judge by a preponderance of the evidence that the assessments of their experts are correct, they only have to demonstrate by a preponderance of evidence that their opinions are reliable." *Paoli II*, 35 F.3d at 744. As further explained in *Paoli II*,

> The evidentiary requirement of reliability is lower than the merits standard of correctness. *Daubert* states that a judge should find an expert opinion reliable under Rule 702 if it is based on "good grounds," *i.e.,* if it is based on the methods and procedures of science. A judge will often think that an expert has good grounds to hold the opinion that he or she does even though the judge thinks that the opinion is incorrect. As *Daubert* indicates, "[t]he focus ... must be solely on principles and methodology, not on the conclusions that they generate." *Daubert,* 509 U.S. at [595], 113 S.Ct. at 2797. The grounds for the expert's opinion merely have to be good, they do not have to be perfect. The judge might think that there are good grounds for an expert's conclusion even if the judge thinks that there are better grounds for some alternative conclusion, and even if the judge thinks that a scientist's methodology has some flaws such that if they had been corrected, the scientist would have reached a different result.
>
> As we explained in *Paoli I,* "the reliability requirement must not be used as a tool by which the court excludes all questionably reliable evidence." *Paoli I,* 916 F.2d at 857. The "ultimate touchstone is helpfulness to the trier of fact, and with regard to reliability, helpfulness turns on whether the expert's 'technique or principle [is] sufficiently reliable so that it will aid the jury in reaching accurate results.'" *DeLuca* [*by DeLuca v. Merrell Dow Pharmaceuticals, Inc.,* 911 F.2d 941, 956 (3d Cir. 1990)] (quoting 3 J. Weinstein & M. Berger, *Weinstein's Evidence* 702[03], at 702–35 (1988)). A judge frequently should find an expert's methodology helpful even when the judge thinks that the expert's technique has flaws sufficient to render the conclusions inaccurate. He or she will often still believe that hearing the expert's testimony and assessing its flaws was an important part of assessing what conclusion was correct and may certainly still believe that a jury attempting to

> reach an accurate result should consider the evidence. *See Paoli I,* 916 F.2d at 857 (helpfulness requires more than bare logical relevance, but there is a strong preference for admission) (citing *Downing,* 753 F.2d at 1235).

*Paoli II*, 35 F.3d 717, 744–45 (3d Cir. 1994).

"[A]n expert may express an opinion that is based on facts that the expert assumes, but does not know, to be true. It is then up to the party who calls the expert to introduce other evidence establishing the facts assumed by the expert." *Williams v. Illinois*, 567 U.S. 50, 57 (2012). "An expert who testifies primarily from experience must explain 'how that experience leads to the conclusion reached, why that experience is a sufficient basis for the opinion, and how that experience is reliably applied to the facts.'" *Trout v. Milton S. Hershey Med. Ctr.*, 576 F. Supp. 2d 673, 676 (M.D. Pa. 2008) (quoting *Suter v. Gen. Acc. Ins. Co. of Am.*, 424 F. Supp. 2d 781, 788 (D.N.J. 2006) (quoting Fed. R. Evid. 702 advisory committee's note, 2000 amends.)).

However, when parties dispute the basis of an expert's conclusions, the Supreme Court has stated that

> [v]igorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence. Additionally, in the event the trial court concludes that the scintilla of evidence presented supporting a position is insufficient to allow a reasonable juror to conclude that the position more likely than not is true, the court remains free to direct a judgment.

*Daubert*, 509 U.S. at 596,113; *see also, ZF Meritor, LLC v. Eaton Corp.*, 696 F.3d 254, 290 (3d Cir. 2012) (finding the district court correctly noted that although some of the plaintiff's expert's testimony may have been contradicted by other evidence, including the testimony

of the defendant's expert, the existence of conflicting evidence was not a basis on which to exclude the plaintiff's expert's testimony because the respective credibility of plaintiff and defendant's experts was a question for the jury to decide.)

Many matters related to reliability have been found to the subject of cross-examination rather than grounds for exclusion. When a proffered expert does not review all materials but the court can determine that the proffered expert reviewed a substantial amount, the expert should not be excluded based on an incomplete records review. *See, e.g., Grande Vill. LLC v. CIBC Inc.*, Civ. A. No. 14-CV-3495, 2018 WL 3085207, at *3 (D.N.J. June 22, 2018) ("Federal Rule of Evidence 702 requires that expert testimony be 'based on sufficient facts or data.' 'Sufficient' implies that expert testimony can be based on less that the entire universe of facts of date that could be provided to the expert."). The party arguing that sufficient facts or data have not been considered "may probe what materials were not reviewed on cross-examination" and may challenge an expert's conclusions by referencing evidence not taken into consideration. *Id.* A contention that a proffered expert has not reviewed all relevant medical records goes to the weight of the opinion rather than the admissibility. *See, e.g., Taylor v. Danek Med., Inc.*, Civ. A. No. 95–CV-7232, 1999 WL 310647, at *2 (E.D. Pa. May 10, 1999). Similarly, claimed mischaracterizations of evidence point to weaknesses in the expert's conclusions which should be the subject of cross-examination rather than exclusion—"The burden is on opposing counsel through cross-examination to explore and expose any weaknesses in the

underpinnings of the expert's opinion," *Int'l Adhesive Coating Co. v. Bolton Emerson Int'l, Inc.*, 851 F.2d 540, 544 (1st Cir. 1988). *See also Trucks N. Am., LLC*, Civ. A. No. 10–623, 2015 WL 1472156, at *4 (D.N.J. Mar. 31, 2015) ("The alleged weaknesses of [the expert]'s opinions are best left to the consideration of the jury, presented through cross-examination and other appropriate evidence at trial."). *Kenna* noted that "[t]he Defendants may certainly cross-examine [the expert] at trial as to the absence of [certain] tests and evaluations and such matter would go to the weight of [the expert's] testimony, not its admissibility." 2006 WL 1266522, at *4.

The foregoing determinations regarding the propriety of admissibility over exclusion are consistent with the

> general rule [that] the factual basis of an expert opinion goes to the credibility of the testimony, not the admissibility, and it is up to the opposing party to examine the factual basis for the opinion in cross-examination. Only if the expert's opinion is so fundamentally unsupported that it can offer no assistance to the jury must such testimony be excluded." *Bonner v. ISP Tech., Inc.*, 259 F.3d 924, 929–30 (8th Cir.2001) (quoting *Hose v. Chicago Northwestern Transp. Co.*, 70 F.3d 968, 974 (8th Cir.1995) (internal citations and quotations omitted)).

*First Union Nat. Bank v. Benham*, 423 F.3d 855, 862 (8th Cir. 2005).

This general rule has been cited in many cases in this Court, including one in which Dr. Thomas was qualified as an expert to opine on the cause of death where controlled substances prescribed by the defendant were alleged to have caused the death of several of his patients. *See United States v. Kraynak*, Crim No. 4:17-CR-403, 2020 WL 6561897, at *1, 6 (M.D. Pa. Nov. 9, 2020). The defendant in *Kraynak* did not challenge Dr. Thomas's

qualifications to offer an expert opinion or the fit of his opinion; his sole challenge was to reliability. 2020 WL 6561897, at *4. The Honorable Matthew W. Brann noted specifically that potential tolerance levels of the decedents or their underlying medical conditions did not render Dr. Thomas's "expert opinions 'so fundamentally unsupported that it can offer no assistance to the jury.'" 2020 WL 6561897, at *7.

Considered within the foregoing legal framework, the Court concludes that Defendant's asserted bases for exclusion are matters properly addressed through cross-examination. The Court will briefly review each claimed basis for exclusion.

Defendant relies on *United States v. Zolot*, 968 F. Supp. 2d 411 (D. Mass. 2013), to support the claim that Dr. Thomas's methodology was insufficient with respect to analyzing postmortem drug levels. (Doc. 127 at 7.) While Dr. Thomas's methodology regarding the analysis of postmortem blood levels may differ from that assessed in *Zolot*, authority relied on by experts in a District of Massachusetts case and the District Court's acceptance of that methodology as reliable does not indicate an exclusive path to reliability when it comes to postmortem drug levels.

As to Defendant's assertion that Dr. Thomas improperly relied on postmortem studies based on *Zolot's* statement that an expert "'cannot simply repeat a medical examiner's opinion . . . unless he has the expertise to independently reach that conclusion'" (Doc. 127 at 10 (quoting *Zolot*, 968 F. Supp. 2d at 427)), Defendant's alteration of the quoted material is telling. In *Zolot*, the defendants were charged with illegal distribution of

Methadone, oxycodone, and fentanyl under 21 U.S.C. § 841 and the government moved to exclude the testimony of Defendant's expert, Dr. Yale Caplan, that each of the six deaths allegedly caused by the illegal distribution of Methadone had independently sufficient causes of death. 968 F. Supp. 2d at 416. Caplan, a board-certified forensic toxicologist, opined that cardiovascular disease was an independently sufficient cause of death in one of the decedents and relied only on the medical examiner's diagnosis to make this determination. *Id.* at 426. He provided no support beyond the medical examiner's diagnosis for his own opinion that cardiovascular disease was independently sufficient to cause death and he presented no independent analysis. *Id.* In this context, *Zolot* stated that the expert "cannot simply repeat a medical examiner's opinion *as the only basis for his own opinion that there was another medical cause of death*, unless he has the expertise to independently reach that conclusion." 968 F. Supp. 2d at 427 (emphasis added). *Zolot* concluded that, as a toxicologist, Caplan did not have independent cardiovascular expertise. *Id.* In this case, Dr. Thomas, as an anesthesiologist and pain management specialist, had independent expertise to reach conclusions regarding opioid drug toxicity and he presented independent analysis in assessing K.D.'s cause of death.

Defendant's claim that Dr. Thomas's methodology was insufficient because he failed to account for postmortem redistribution (Doc. 127 at 10) does not support a determination that his opinion is unreliable. Defendant highlights the fact that Dr. Thomas did not know the anatomical location from which K.D.'s postmortem blood sample was drawn and,

therefore, could not have accounted for the effects of PMR is his final analysis. (*Id.* at 11.) However, Defendant's argument is undermined by Dr. Thomas's testimony regarding his familiarity with relevant postmortem processes including postmortem redistribution and the effects of postmortem processes on his assessments. Dr. Thomas testified that he was familiar with postmortem redistribution ("PMR"). (Hr'g Tr. 84:24-25 (Doc. 120).) He agreed that death changes the distribution of the drugs that are found on blood tests and the point from which the blood is drawn has an effect on values. (Hr'g Tr. 94:10-24 (Doc. 120).) When asked by Defendant's counsel's whether it would "make a difference in the value that's returned, for the blood value of the drug you're looking at, in this case, Methadone, depending on the source of the blood draw anatomically," Dr. Thomas responded that

> [t]he blood draw, if we were to draw them separately or simultaneously from different sites may be different. However, for the purpose for which that number is being used, in terms of determining whether or not the patient had a toxic quantity of the drug in their blood, at the time death, that particular point estimate is precisely that.
>
> Do I believe that at every point in her body, at the time of death, that [K.D.] had a Methadone concentration of 180 nanograms per milliliter? No. I'm sure that it was different at different points.
>
> Do I believe that that particular number, 180 nanograms per milliliter, was the same at the moment that she ceased to respire, as it was at the time that the blood was drawn? No. Because that's not the way it works, because there are things that cause flux in the concentration.
>
> But the real issue is, given that the reported concentrations in patients who have died from single-drug intoxication with Methadone is between 60 and 300 -- I'm sorry -- 3100, she is within the range. She, additionally, has the presence of nordiazepam. She, additionally, has no other indication of any

> other lethal event. She has that occurring in the setting of a patient who has her history and the prescribing that has occurred.
>
> That is the manner by which I determined the but-for cause, not by, simply, the single number of 180 nanograms per milliliter.

(Hr'g Tr. 95:16-96:20 (Doc. 120).)

The Court also disagrees with Defendant's assertion that Dr. Thomas's opinion is unreliable because he did not consider all relevant medical records (Doc. 127 at 12). Defendant's focus on evidence related to K.D.'s tolerance of Methadone is appropriate given Dr. Thomas's opinion that she was relatively opioid naïve when Dr. Evers last prescribed Methadone in September 2014. *See supra* pp. 5-6, 9. However, as set out above, claims of insufficient record review, failure to consider relevant medical records, and mischaracterizations of evidence go to the weight of an opinion rather than its admissibility and are properly explored on cross-examination. *See supra* pp. 19-21.

Finally, Defendant's contention that Dr. Thomas's conclusion that Dr. Evers' prescriptions for Methadone and Nordiazepam were the "but for cause" of K.D.s death because he inferred that the drugs in her system at the time of her death were those prescribed by Dr. Evers (Doc. 127 at 16) does not provide a basis for exclusion on reliability grounds. Defendant relies on *Burrage v. United States*, 571 U.S. 204 (2014), in support of the assertion that Dr. Thomas's inference on the issue forecloses reliability. (Doc. 127 at 16.) However, *Burrage* is not a case about Rule 702 reliability. As set out above, in the *Daubert* reliability context, "an expert may express an opinion that is based on facts that the

expert assumes, but does not know, to be true. It is then up to the party who calls the expert to introduce other evidence establishing the facts assumed by the expert." *Williams,* 567 U.S. at 57 (2012).

The Court's rejection of Defendant's bases for finding Dr. Thomas's opinion regarding K.D.'s cause of death unreliable is bolstered by the fact that Dr. Thomas testified that he used a differential diagnosis in determining cause of death in this case and explained in detail how he arrived at his conclusions. (Hr'g Tr. 61:10-63:22 (Doc. 120).)

A differential diagnosis is a standard diagnostic technique in the medical field. *See, e.g., Paoli II*, 35 F.3d at 758-62. Although, as explained in *Paoli II*, the methodology used in employing the technique does not lend itself to application of most *Daubert factors* in assessing the reliability of a differential diagnosis. *Id.* at 758. However, the Circuit Court noted that, in conducting the *Daubert* inquiry with the necessary flexibility, "to the extent that a doctor utilizes standard diagnostic techniques in gathering the information that comprises the differential diagnosis, the more likely a court will find the doctor's methodology reliable." *Id.* at 758. A physician may reach a reliable differential diagnosis without conducting a physical examination or undertaking independent testing if other examination results are available—"it is perfectly acceptable for a physician to rely on examinations and tests performed by other medical practitioners." *Kannankeril v. Terminix Intern., Inc.*, 128 F.3d 802, 807 (3d Cir. 1997). As set out above, this Court has also found it acceptable for an expert to testify primarily based on experience if he explains "how that experience leads to

the conclusion reached, why that experience is a sufficient basis for the opinion, and how that experience is reliably applied to the facts." *Trout*, 576 F. Supp. 2d at 676 (quoting Fed. R. Evid. 702 advisory committee's note, 2000 amends.).

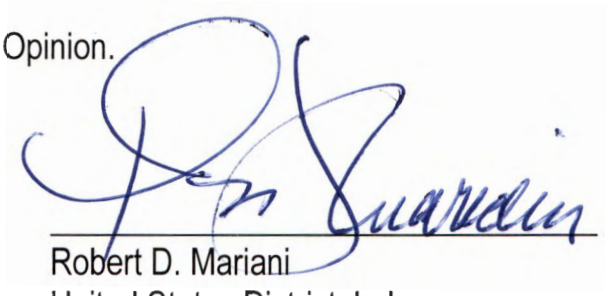
Dr. Thomas explained his differential diagnosis in detail and answered numerous questions as to how he arrived at his conclusion regarding K.D.'s cause of death. (*See, e.g.*, Hr'g Tr. 61:15-65:18, 66:17-67:24, 95:15-99:22 (Doc. 120).) A review of relevant portions of the Hearing Transcript, *see, e.g., supra* pp. 6-9, shows that Dr. Thomas sufficiently explained how his experience led to the conclusion, why his experience is a sufficient basis for his opinion, and how his experience is reliably applied to facts. *Trout*, 576 F. Supp. 2d at 676. He was not precluded from using examinations and tests performed by the Coroner and toxicologist. *Kannankeril, Inc.*, 128 F.3d at 807.

Based on Dr. Thomas's testimony and information contained in his reports, the Court concludes that Dr. Thomas's opinion satisfies the reliability standard regarding the use of a differential diagnosis. His opinion on K.D.'s cause of death clearly does not rely on "junk science" which the *Daubert* requirements are meant to exclude. *Best*, 563 at 177. Dr. Thomas's explanation of his opinion shows that it is based on "good grounds"—a finding which does not mean that the opinions and reports are without flaws. *Paoli II*, 35 F.3d at 744-45. Dr. Thomas's opinion on K.D.'s cause of death satisfies the "ultimate touchstone" of the reliability inquiry, i.e., it will be helpful to the trier of fact in reaching accurate results.

*Id.* As advised in *Paoli II*, the airing of differences of opinion and flaws in an expert's testimony is an important part of a jury's attempt to reach an accurate result. *Id.*

## IV. CONCLUSION

For the foregoing reasons, the Court will deny Defendant's Motion to Exclude Opinion and Testimony of Dr. Stephen Thomas (Doc. 54). A separate Order is filed simultaneously with this Memorandum Opinion.



Robert D. Mariani
United States District Judge